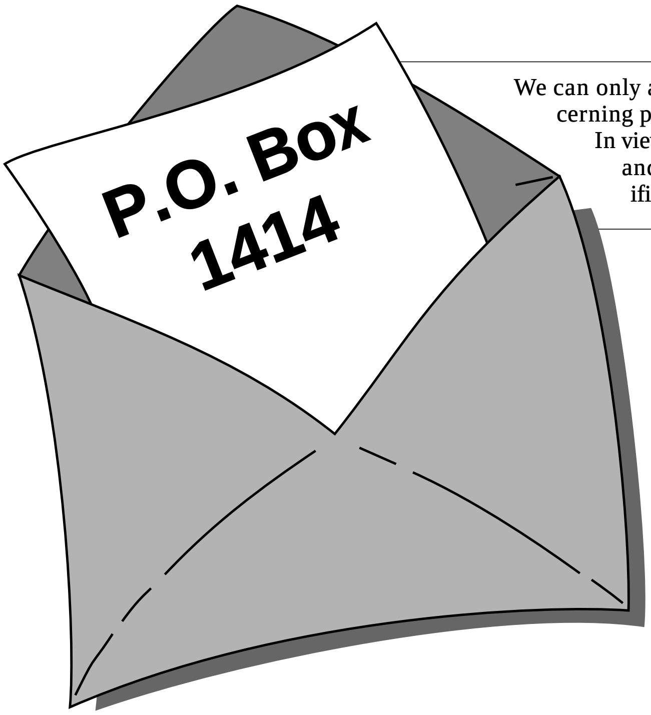
READERS' Letters



We can only answer questions or remarks of general interest to our readers, concerning projects not older than two years and published in *Elektor Electronics*. In view of the amount of post received, it is not possible to answer all letters, and we are unable to respond to individual wishes and requests for modifications to, or additional information about, *Elektor Electronics* projects.

Memory change-over tip

Dear Editor — with reference to L. Lemmens' useful tip (005, page 57, December 1998), I wonder if you've noticed you can do the same thing using +/– in, say, BASIC:

```
A=A+B
B=A–B
A=A–B
```

You can extend the idea to swap strings:

```
A$=A$+B$
B$=LEFT$(A$,LEN(A$–LEN
   (B$))
A$=RIGHT$(A$,LEN(A$)–L
   EN(B$))
```

Danny Langton, by email

Elektor Electronics — Contents

Dear Editor — as one of your long term subscription readers I feel it is about time to air some of my views concerning the type of projects currently being featured in the magazine.

Firstly then, the complaint. It may well not surprise you to learn that I think you are producing far too many projects for, and features on, computers. Most of the projects have rather limited use an appeal to the average reader, how many of your readers who own a computer actually use their machine to perform tasks more technical than a word processor, a game player or to surf the net(?) — and oh yes, we must not forget using a computer to reproduce some very awful holiday photographs in an equally awful digital form. Perhaps some help in actually learning how to operate and get the best of the average PC would be in order, particularly in the case of some of your more mature readers. As a Windows 95/Coraldraw 8 operator (take the word 'operator' with a pinch of salt, please) I think I am on the rung below the one listed as 'illiterate'.

Now to some suggestions for future projects:

A stereo PA slave amplifier with the basic spec of 200/300 W rms into 8R, using easily obtainable FET output transistors (BUZ series), simple rugged design (similar to your advertiser's BK Electronics' products), a volume control, soft start. LS protection and an LED output meter calibrated in watts — this last feature would make a good stand-alone project as I can't remember the last time an audio output meter was featured. If you decide to do the meter project it should be versatile to show outputs from say 100 to 400 or 500 watts (there are a lot of very high power amps out there these days).

A four channel lighting controller for DJ's featuring a user controllable and auto display with channel repeater LEDs on the front panel. I think I'm talking a microcontroller circuit here with audio connections as it should be bass beat clocked via an internal microphone.

A sound clocked stepper motor controller for use in disco lighting effects. There are two possibilities here, one a simple version stepping the motor to the sound beat, and secondly a version controlled by an inexpensive microcontroller, again sound clocked. This type of circuit could be used for colour and gobo lighting effects.

My final comments concern the components used in projects. There is still a tendency to use ICs that are difficult to source in the UK unless one knows where to look. It is all very well to name the component manufacturer but it would be very much better to name a UK stockist. For example, I was recently looking for a Phillips (sic, *Ed.*) IC, the heart of one of your recent projects and not one of the six Phillips franchise holders that I spoke to could supply the part — that is unless I was prepared to order 100 off and wait six weeks for delivery, and then only two of them could offer that! Capacitors are the other problem. Normally in the parts listing you only state the type of capacitor to use for critical parts of the circuit, but what about the less critical parts, should they be polyester, polycarb, MKT, ceramic or what? I think it would also be a good idea to state the ripple value of high value electrolytic capacitors, as this would aid the selection of the correct capacitor for the circuit.

I hope that these observations and suggestions will be regarded as constructive and I look forward to seeing the results in future editions of the best practical electronics mag on the market.

David Jones

This rather long letter is reproduced unabridged here because it contains valuable points for discussion.

Regarding the number of computer-related items, we can only say that the content of a magazine which attempts to be in the forefront of technology has to be an accurate reflection of readers' interests and their ways of dealing with the subject at hand: modern electronics. Our latest Readership Survey indicates that the majority of readers find the balance between computer and non-computer-related projects just right. With this in mind, we strive to keep the amount of computer stuff in each magazine within reason, although many of our younger readers are clamouring out for more. As you may have noticed, our computer articles are always related to electronics in the widest sense of the word, and nearly always about hardware and software you will not easily find in the highstreet computer shop.

Suggestions for future projects are always welcome and yours have been copied to our design department. A high-power audio amp, — well your wish is our command as you can see from the Titan 2000 article of which the second part is included in this very issue.

Some of the components used in our projects are, admittedly, rather special. However, mentioning one UK supplier would provoke letters from half a dozen others claiming to have supplies also, and always after publication of the relevant article! Two of our advertisers, C-I Electronics and Stippler Elektronik, supply kits for many of our projects, as well as 'difficult to source' individual components. Arguably, their exact *function is to buy the 100 components you mention from, say, Philips Semiconductors (not 'Phillips'), and then sell them to you. You may object to this, but it is the simple and whole purpose of retail business: buy in volume quantities, sell as one-off. Stippler Elektronik have a UK outlet also: Viewcom Electronics, so if you prefer to Buy British that is the way to go. C-I Electronics are fully set up to deal with credit card payment, advertise and correspond in English, so with them too borders are virtually non-existent (within the EU).*

By the way, you do not mention the type number of the IC you were after — we may have been able to help you with pointers in the right direction.

Capacitors, then. Our design department advises that where no particular make, style or dielectric material is mentioned, the part is indeed so uncritical that any one the types you mention will work without problems. In case of doubt, guidance may be obtained from the photographs included in the article, or simply ask us!

Tachometer — inductive pick-up?

Dear Editor — your article covering a DIY tachometer (*Elektor Electronics* October 1998) states that ignition pulses are picked up inductively. I think this is misleading. To be able to generate a voltage inductively, a changing magnetic field has to be sent through the inductor. There is no such field. The magnetic field caused by the ignition current does not pass through the coil but appears at a right angle from it. So in fact we are looking at capacitive coupling at the 'hot' side of the coil.

K. Williams

If we doze off from time to time, there's always someone to prod us awake! Of course you are right. Our apologies for this slip of the pen.

PC-Controlled light Dimmer — watt's up?

Dear Editor — I was delighted to see the PC-controlled 32-channel light dimmer in the December 1998 magazine. With some surprise I noticed that the maximum power per channel is only 275 watts. As far as I know, the smallest theatre spotlight weighs in at 500 watt. Are you aware of any opto-triacs for higher power, or is there another way to increase the power in each channel?

K. Verstraeten

The problem is not caused by the opto-triacs, because with sufficient cooling these are capable of passing up to 8 A (approx. 1900 W). However, suppressor choke L1 has a highest rating of 10 A, and this value is also the safe limit for the PCB tracks and the PCB terminal block. The 500-watt lamps you mention may be controlled by adding not more than four opto-triacs per PCB, and increasing the fuse ratings to 2.5 A (slow).

To still be able to use 32 channels, simply use more PCBs (in this case, eight), connected in parallel to RS232 port on your computer.